

What is claimed is:

1. A water base ink for ink-jet recording

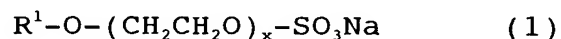
comprising:

water;

a water-soluble organic solvent;

a self-dispersing type water-insoluble particulate coloring agent;

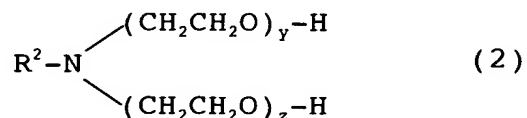
a compound which is represented by the following formula (1);



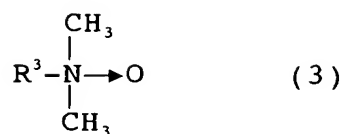
wherein  $R^1$  represents an alkyl group and  $x$  is 20 to 30 in the formula (1); and

a surfactant which has a nitrogen atom in a molecule.

2. The water base ink for ink-jet recording according to claim 1, wherein the surfactant is at least one of a surfactant represented by the following formulae (2) and (3):



wherein  $R^2$  represents an alkyl group and  $y + z$  is 5 to 15 in the formula (2);



wherein  $\text{R}^3$  represents an alkyl group and  $\text{N} \rightarrow \text{O}$  represents a semipolar bond of amine oxide in the formula (3).

3. The water base ink for ink-jet recording according to claim 1, wherein a surface tension is 30 to 50 mN/m, and a ratio of change of the surface tension after storage at 60 °C for 2 weeks is less than 5 %.

4. The water base ink for ink-jet recording according to claim 1, wherein the compound represented by the formula (1) is sodium polyoxyethylene oleyl ether sulfate.

5. The water base ink for ink-jet recording according to claim 1, wherein the compound represented by the formula (1) is contained by 0.5 to 1 % by weight in the ink.

6. The water base ink for ink-jet recording according to claim 1, wherein the surfactant is contained by 0.1 to 3 % by weight in the ink.

7. An ink cartridge which accommodates the water base ink for ink-jet recording as defined in claim 1.

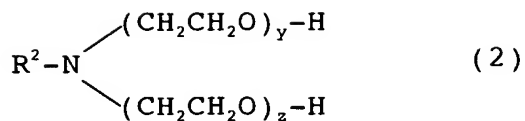
8. A method for preparing the water base ink for ink-jet recording as defined in claim 1, comprising the steps of:

preparing a solution A by mixing the compound which is represented by the formula (1) and an aqueous coloring agent solution obtained by dispersing the self-dispersing type water-insoluble particulate coloring agent;

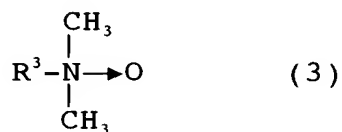
preparing a solution B by mixing components for constituting the ink except for the compound represented by the formula (1) and the self-dispersing type water-insoluble particulate coloring agent; and

agitating the solution A and adding the solution B to the solution A during the agitation, followed by being mixed with each other.

9. The method for preparing the water base ink for ink-jet recording according to claim 8, wherein the surfactant is at least one of a surfactant represented by the following formulae (2) and (3):



wherein  $\text{R}^2$  represents an alkyl group and  $y + z$  is 5 to 15 in the formula (2);



wherein  $\text{R}^3$  represents an alkyl group and  $\text{N} \rightarrow \text{O}$  represents a semipolar bond of amine oxide in the formula (3).

10. The method for preparing the water base ink for ink-jet recording according to claim 8, wherein the compound represented by the formula (1) is sodium polyoxyethylene oleyl ether sulfate.

11. The method for preparing the water base ink for ink-jet recording according to claim 8, wherein the solution A is prepared so that the compound represented by the formula (1) is contained by 0.5 to 1 % by weight in the ink.

12. The method for preparing the water base ink for

ink-jet recording according to claim 8, wherein the solution B is prepared so that the surfactant is contained by 0.1 to 3 % by weight in the ink.